



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: NK-86MA BYPASS RATIO: 1.1  
 UNIQUE ID NUMBER: 1KK005 PRESSURE RATIO ( $\pi_{00}$ ): 13.2  
 COMBUSTOR:  
 ENGINE TYPE: MTF RATED THRUST ( $F_{00}$ ) (kN): 130.5

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	15.2	100.5	37.3	10.5
AS % OF ORIGINAL LIMIT	77.4	85.1	56.2	47.8
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			70.2	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			93.0	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			105.7	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			140.9	

### DATA STATUS

- PRE-REGULATION  
 x CERTIFICATION  
 - REVISED (SEE REMARKS)

### TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES  
 - DEDICATED ENGINES TO PRODUCTION STANDARD  
 - OTHER (SEE REMARKS)

### EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE  
 (ANNEX 16 VOLUME II)

### CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)  
 - OUT OF PRODUCTION (DATE: - )  
 - OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO <sub>x</sub>	
TAKE-OFF	100	0.7	2.050	0.16	1.55	13.00	
CLIMB OUT	85	2.2	1.700	0.13	1.90	9.40	
APPROACH	30	4.0	0.600	0.30	5.90	3.90	
IDLE	7	26.0	0.235	4.60	29.80	2.30	
LTO TOTAL FUEL (kg) or EMISSIONS (g)			821	1773	12334	4633	-
NUMBER OF ENGINES				5	5	4	7
NUMBER OF TESTS				7	7	4	10
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				13.5	94.6	35.5	9.9
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				3.7	22.5	2.3	2.9
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				8.7-17.1	61.3-113	32-40.1	44363.0

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS  
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	101.2-102.4
TEMPERATURE (K)	260-298
ABS HUMIDITY (kg/kg)	0.00079-0.02

### FUEL

SPEC	TS-1
H/C	2
AROM (%)	18.6

MANUFACTURER: KKBM  
 TEST ORGANIZATION: KKEM  
 TEST LOCATION: Samara City  
 TEST DATES: 18/07/1987-20/01/1990

### REMARKS

- NK-86A with modified combustor.
- For IL-86 aircraft.

Compliance with Fuel Venting requirements: - ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)